

CLAIMS

What is claimed is:

1. A method of broadcasting multidimensional virtual reality audio and visual information, the method comprising:
acquiring audio and visual information from a plurality of acquisition angles in a three dimensional space;
processing the acquired audio and visual information for transmission;
receiving the processed audio and visual information; and
projecting the audio and visual information in a multidimensional virtual form from a plurality of projections angles in three dimensional space.

2. The method according to claim 1, further comprising:
storing the audio and visual information;
communicating the audio and visual information via a communication network;
acquiring sound information surrounding and emanating from a subject from a plurality of angles around the subject;
acquiring visual information surrounding and emanating from the subject, wherein visual information comprises visual features of an entirety of an exterior surface of a subject are acquired multidimensionally; and
producing a multidimensional surrounding visual representation and a multidimensional surrounding audio representation of a projected subject, wherein the projected subject is identical to a subject from which audio and visual information was previously acquired.

3. The method according to claim 1, wherein processing the audio and visual information further comprises:

projecting holographic information from a plurality of holographic projector units interact to form a multidimensional virtual reality region through at least one of light propagation, light cancellation, constructive interference, and destructive interference, from a plurality of angles simultaneously; and

focusing and projecting holographic information to a zone of projection, wherein holographic projection units project holographic information to a location corresponding to an identical location where visual information was captured, creating a multidimensional virtual reality representation of the subject.

4. The method according to claim 1, wherein processing the audio and visual information further comprises at least one of encoding, decoding, compressing, and decompressing the audio and visual information, and wherein processing further comprises audio encoding and decoding and visual encoding and decoding, wherein audio encoding and decoding comprises MPEG 1 level 3 processes and visual encoding and decoding comprises MPEG 2 decoding processes.

5. A method of acquiring multidimensional audio and visual (A/V) information, the method comprising

acquiring A/V information from a multidimensional acquisition zone, the multidimensional acquisition zone comprising a substantially continuous three dimensional field of capture, wherein acquiring A/V information further comprises capturing A/V information from a plurality of angles at discrete positions in three dimensional space.

6. The method according to claim 5, further comprising:

processing the captured A/V information for transmission, wherein processing the captured A/V information comprises at least one of encoding and compressing the captured A/V information;

communicating the A/V information via at least one communication network;

storing the captured A/V information in at least one of a plurality of storage media devices;

acquiring A/V information surrounding and emanating from the subject via a plurality of A/V receiver units in the A/V capture chamber, the A/V receiver units comprise at least one of a visual capture device and an audio capture device, the visual capture device comprises at least one video camera and the audio capture device comprises at least one microphone, the audio capture device and the visual capture device are at least one of connected devices and separate devices;

deploying the plurality of A/V receiver units about an interior surface of the A/V capture chamber and acquiring the A/V information from a plurality of angles around the subject;

focusing the A/V receiver units upon a capture acquisition region comprising a center of an interior of the

A/V capture chamber, the A/V capture chamber has a shape comprising at least one of spherical, rectangular, square, and ovoid.; and

focusing each A/V receiver unit upon a portion of the capture acquisition region, and overlapping each adjacent A/V receiver unit acquisition region at least partially, and acquiring A/V information from each A/V receiver unit's acquisition region and overlapping portions of adjacent A/V receiver units' acquisition regions.

7. The method according to claim 5, wherein processing captured audio and visual information further comprises encoding the audio information and encoding the visual information, wherein encoding the audio information comprises applying MPEG 1 level 3 encoding processes to the audio information and encoding visual information comprises applying MPEG 2 visual encoding processes to the visual information.

8. The method according to claim 5, further comprising combining additional ancillary A/V information with the acquired A/V information, wherein the additional ancillary A/V information comprises at least one of music, graphs, pictures, tables, documents, and backgrounds.

9. A method of displaying and projecting multidimensional audio and visual (A/V) information, the method comprising:

projecting A/V information into a multidimensional display region, the multidimensional display region comprising a uniform field of focused projection, wherein displaying A/V information further comprises projecting A/V information from a plurality of discrete projection angles located at a plurality of locations in three dimensional space;

processing received A/V information, wherein processing received A/V information comprises at least one of decompressing and decoding A/V information, wherein processing A/V information further comprises audio decoding and video decoding, wherein audio decoding comprises MPEG 1 level 3 decoding processes and video decoding comprises MPEG 2 decoding processes;

projecting the A/V information in a multidimensional virtual form into a corresponding multidimensional projection zone;

storing A/V information in a plurality of storage media devices; and

receiving A/V information from at least one communication network.

10. The method according to claim 9, wherein displaying the A/V information comprises using an A/V display chamber, wherein the A/V display chamber has a shape comprising at least one of spherical, rectangular, square, and ovoid, and wherein the A/V display chamber is selected from one of a room and a stage.

11. The method according to claim 9, further comprising:

processing visual information, wherein processing visual information further comprises at least one of enabling a video display engine to transform the visual information into a video output signal and enabling a holographic display engine to transform the visual information to a holographic output signal;

transmitting one of the video output signal to a video projection unit and the holographic output signal to a holographic projection unit;

processing audio information and transmitting the audio information via an audio output signal to an audio projection unit; and

receiving and projecting one of a combined holographic and audio output signal, a combined video and audio output signal, a separate holographic output signal and audio output signal, and a separate video output signal and audio output signal received from one of the A/V decoding system and a storage system.

12. The method according to claim 11, wherein receiving and projecting the audio and visual information is performed by a plurality of video projection units for projecting and displaying the video output signal and a plurality of audio projection units for projecting the audio output signal, wherein a plurality of A/V display units are distributed around an interior surface of an A/V display chamber.

13. The method according to claim 12, further comprising focusing and directing audio information and projected holographic information upon a center region of the A/V display chamber producing a multidimensional

surrounding visual and multidimensional surrounding audio representation of a projected subject.

14. The method according to claim 13, further comprising:

projecting holographic information from a plurality of holographic projector units forming a multidimensional virtual reality region through at least one of light propagation, light cancellation, constructive interference, and destructive interference, arriving from a plurality of angles around an entirety of the A/V display chamber simultaneously;

focusing and projecting the holographic information from a plurality of discrete angles and overlapping zones of projection;

projecting holographic information to the zone of projection via a plurality of holographic projection units, wherein the holographic projection units project holographic information to a location creating a multi-dimensional virtual reality representation of a subject; and

playing received audio information via a plurality of audio playback units, each of the audio playback units comprising at least one speaker, the audio playback units focusing and projecting audio information to create a multidimensional virtual audio representation of a subject's sound information and speech.

15. A multidimensional virtual reality audio and visual (A/V) system comprising:

A/V capture system for acquiring audio and visual information from a multidimensional acquisition zone; and

A/V encoding system, the A/V encoding system processing the acquired A/V information for transmission.

16. The system according to claim 15, further comprising:

a plurality of storage media devices for storing A/V information comprising at least one of a stationary storage device and a mobile storage device; and

the system being communicatively coupled to at least one communication network, and wherein A/V information is communicated between one of the A/V encoding system and at least one of a plurality of storage media devices for storing audio and visual information, the A/V information captured by the A/V capture system is at least one of encoded and compressed by the A/V encoding system, the A/V capture system comprises an A/V capture chamber, the A/V capture chamber has a shape comprising at least one of spherical, rectangular, square, and ovoid, the A/V capture chamber is adapted to acquire sound information surrounding and emanating from a subject and visual information surrounding and emanating from the subject via a plurality of A/V receiver units, the plurality of A/V receiver units are deployed about an interior surface of the A/V capture chamber to acquire sound and visual information from all possible angles around the subject, the A/V receiver units are focused upon a capture acquisition region comprising a center of an interior of the A/V capture chamber.

17. The system according to claim 16, wherein each A/V receiver unit is focused upon a portion of the capture acquisition region, and each A/V receiver unit is arranged to acquire A/V information from an A/V receiver unit's acquisition region and a region at least partially overlapping adjacent A/V receiver units' acquisition regions, the A/V receiver units comprise at least one of a video capture device and an audio capture device, the audio capture device and the video capture device are at least one of connected devices and separate devices, the video capture device comprises at least one video camera and the audio capture device comprises at least one microphone, wherein visual features of an entirety of an exterior surfaces of a subject are captured by the plurality of A/V receiver units in combination multidimensionally, and audio information emanating from the subject are captured by the plurality of A/V receiver units in combination multidimensionally, additional A/V information is combined with the acquired A/V information from the A/V receiver units, wherein the additional A/V information comprises at least one of music, graphs, pictures, tables, documents, and backgrounds, the A/V encoding system processing received audio and visual information further comprises audio encoding and video encoding, wherein audio encoding comprises MPEG 1 level 3 encoding processes and video encoding comprises MPEG 2 decoding processes.

18. A multidimensional virtual reality audio and visual (A/V) system comprising:

an A/V decoding system, the A/V decoding system processing received audio and visual information; and

an A/V display system, the A/V display system projecting the audio and visual information in a multidimensional virtual form in a corresponding multidimensional projection zone.

19. The multidimensional virtual reality A/V system according to claim 18, further comprising:

a plurality of storage media devices for storing audio and visual information, the storage media devices for storing audio and visual information comprise at least one of a stationary storage device and a mobile storage device, the A/V system being communicatively coupled to at least one communication network, and A/V information being communicated between one of the A/V decoding system and at least one of the plurality of storage media devices for storing A/V information, the A/V decoding system comprising audio decoding and video decoding, the audio decoding comprising MPEG 1 level 3 decoding and the video decoding comprising MPEG 2 decoding, the A/V decoding system further comprising a video display engine transforming the visual information to a video output signal, the video output signal being transmitted to a video projection unit, the A/V decoding system further comprising enabling a holographic display engine transforming the visual information to a holographic output signal, the holographic output signal being transmitted to a holographic projection unit, the A/V decoding system further comprising audio information transmitted via an audio output signal, the audio output signal being transmitted to an audio projection unit, the audio output signal and one of a video output signal and a

holographic output signal being transmitted one of combined together and separately, the A/V display system being adapted to receive one of a combined holographic and audio output signal, a combined video and audio output signal, a separate holographic and audio output signals, and a separate video and audio output signals from one of the A/V decoding system and a media storage device, the A/V display system comprising an A/V display chamber, the A/V display chamber having a shape comprising one of spherical, rectangular, square, and ovoid, and the A/V display chamber further comprising one of a room and a stage, the A/V display chamber comprising a plurality of video projection units for projecting the video output signal and a plurality of audio projection units for projecting the audio output signal, the A/V display chamber comprising a plurality of A/V display units distributed around an interior surface of the A/V display chamber, the audio information and the holographic information being directed and focused upon a center region of the A/V display chamber producing a multidimensional surrounding visual and multidimensional surrounding audio representation of a projected subject, the projected subject being identical to a subject from which the A/V information was captured in an A/V capture chamber, the projected holographic information from a plurality of holographic projector units interact forming a multidimensional virtual reality region through at least one of light propagation, light cancellation, constructive interference, and destructive interference, arriving from a plurality of angles around an entirety of an interior of the A/V display chamber simultaneously, the projected holographic information being focused and projected from a plurality of angles and zones of projection, the A/V display unit comprising a plurality of holographic projection units projecting holographic information to the zone of

projection, wherein the holographic projection units project holographic information creating a multidimensional virtual reality representation of the subject, the A/V display unit comprising a plurality of audio playback units, the audio playback units comprising at least one speaker, the audio playback units projecting audio information to create a multi-dimensional virtual audio representation of a subject's sound information and speech.

20. A multidimensional virtual reality audio and visual (A/V) system comprising:

an A/V capture system for acquiring audio and visual information from a multidimensional acquisition zone;

an A/V encoding system, the A/V encoding system processing the acquired audio and visual information for transmission;

an A/V decoding system, the A/V decoding system processing received audio and visual information; and

an A/V display system, the A/V display system projecting the audio and visual information in a multidimensional virtual form to a corresponding multidimensional projection zone.

21. The multidimensional virtual reality audio and visual system according to claim 20, further comprising:

a plurality of storage media devices for storing audio and visual information the storage media devices for storing audio and visual information comprising at least one of a stationary storage device and a mobile storage device, the A/V system being communicatively coupled to at least one communication network, the A/V information being communicated between one of the A/V encoding system, the A/V decoding system, and at least one of a plurality of storage media devices for storing audio and visual information, the A/V capture system and the A/V display system being one of located at different geographic locations and co-located at a plurality of different geographic locations, additional A/V information is combined with acquired A/V information from the A/V receiver units, the additional A/V information comprises at least one of music, graphs, pictures, tables, documents, and backgrounds, the A/V decoding system processing received A/V information further comprises audio decoding and video decoding, the audio decoding comprising

MPEG 1 level 3 decoding processes and the video decoding comprising MPEG 2 decoding processes, the A/V decoding system further comprising a video display engine transforming the visual information into a video output signal, the video output signal being transmitted to a video projection unit, the A/V decoding system further comprising a holographic display engine transforming the visual information into a holographic output signal, the holographic output signal being transmitted to a holographic projection unit, the A/V decoding system further comprising transforming the received audio information into an audio output signal and transmitting the audio output signal via at least one communications network, the audio output signal being transmitted to an audio projection unit, the audio output signal and one of a video output signal and a holographic output signal being transmitted one of combined together and separately, the A/V display system receiving one of a combined holographic and audio output signal, a combined video and audio output signal, a separate holographic and audio output signal, and a separate video and audio output signal from one of the A/V decoding system and a media storage device, the A/V display system comprising an A/V display chamber, the A/V display chamber having a shape comprising one of spherical, rectangular, square, and ovoid, and the A/V display chamber further comprises one of a room and a stage, the A/V display chamber comprising a plurality of video projection units for projecting the video output signal and a plurality of audio projection units for projecting the audio output signal, the A/V display chamber comprising a plurality of A/V display units distributed around an interior surface of the A/V display chamber, audio information and holographic information being directed and focused upon a center region of the A/V display chamber producing a multidimensional

surrounding visual representation and a multidimensional surrounding audio representation of a projected subject, the projected subject being identical to a subject from which the A/V information was previously captured in an A/V capture chamber, projected holographic information from a plurality of holographic projector units interact forming a multidimensional virtual reality region through at least one of light propagation, light cancellation, constructive interference, and destructive interference, arriving from a plurality of angles around an entirety of the A/V display chamber simultaneously, the projected holographic information being focused and projected from a plurality of angles and zones of projection identically as acquired A/V information that was captured from respective corresponding angles and zones of acquisition by the A/V receiving units of the A/V capture chamber, the A/V display unit comprising a plurality of holographic projection units projecting holographic information to the zone of projection, the holographic projection units project holographic information to a location corresponding to an identical location in the A/V capture chamber where visual information was captured, and creating a multidimensional virtual reality representation of the subject, the A/V display unit comprising a plurality of audio playback units, the audio playback units comprising at least one speaker, the audio playback units projecting audio information to an identical location in the A/V display chamber where the corresponding audio information was acquired in the A/V capture chamber, the plurality of audio playback units being focused to project audio information creating a multidimensional virtual audio representation of a subject's sound information and speech.